EXHIBIT 1

UNITED STATES DISTRICT COURT SOUTHERN DISTRICT OF NEW YORK

ANNE DE LACOUR, ANDREA WRIGHT, and LOREE MORAN individually and on behalf of all others similarly situated,

Case No. 1:16-cv-08364

Plaintiffs,

v.

COLGATE-PALMOLIVE CO., and TOM'S OF MAINE INC.

Defendants.

DECLARATION AND EXPERT REPORT OF J. MICHAEL DENNIS, PH.D.

JULY 8, 2022

- I, J. Michael Dennis, Ph.D., declare as follows:
- 1. I have been retained by counsel for Plaintiffs in the matter of the named Plaintiffs Anne de Lacour, Andrea Wright, and Loree Moran ("Plaintiffs") versus the Colgate-Palmolive Co. and Tom's of Maine, Inc. ("Defendants"). If called upon to testify, I would and could testify competently to all such subject matter in this Declaration and Expert Report.
- 2. Previous to my engagement as a consultant to Plaintiffs in this litigation, I had never purchased the products being litigated.
- 3. Plaintiffs' counsel has retained my services at the hourly rate of \$400. My compensation is not contingent on the results of my work or any outcome of the litigation.

- 4. I have been personally involved in the design and conduct of hundreds of statistical surveys using the internet mode of data collection over the last 25 years, including the kind of consumer survey described in this report.
- 5. Designing and conducting surveys about the opinions, perceptions, attitudes, preferences, and values of consumers, voters, members of associations, and citizens is a service that I have provided for my customers for more than 25 years. I have designed and conducted consumer surveys that have been accepted by courts in the following cases:
 - Price [Miles] v. Philip Morris, Case No. 00 L 0112 (Circuit Court, Third Judicial Court, Madison County, Illinois)
 - Zill v. Sprint, Case No. RG03114147 (Superior Court of the State of California, County of Alameda) (collectively the "cellphone unlocking cases")
 - Ebin v. Kangadis Food Inc., Case No. 1:13-cv-02311 (S.D.N.Y.)
 - Sachs and Alden v. Toyota Motor Corporation, Case No. BC443701 (Superior Court of the State of California, County of Los Angeles)
 - Avram v. Samsung Electronics America, Inc. and Lowe's Home Centers, Case No. 2:11-cv-6973 (KM)(SCM) (D.N.J.)
 - Geanacopoulos v. Philip Morris, USA, Civil Action No. 98-6002-BLSI (Superior Court for the Commonwealth of Massachusetts)
 - Scotts EZ Seed Litigation, Case No. 12-CV-4727 (VB)(PED) (S.D.N.Y.)
 - Dzielak v Whirlpool, Case No. 12-cv-00090 (D.N.J.)
 - Pettit v. Procter & Gamble [RE: Flushable Wipes], U.S. District Court for the Northern District of California (Case No. 3:15-CV-02150-RS)
 - Fitzhenry-Russell, et al. v. Dr. Pepper Snapple Group, Inc., et al., Case Nos. 5:17-cv-00564-NC (lead); 5:17-02341-NC (consolidated) (N.D. Cal.)
 - Theodore Broomfield, et al. v. Craft Brew Alliance, Inc., et al., Case No. 5:17-cv-01027-BLF (N.D. Cal, San Jose Div.)
 - Benson v. Newell Brands, Inc. and NUK USA LLC., Case No. 19-cv-06836 (N.D. III).
 - Sharpe v. A & W Concentrate Company, Civil Action No. 19-cv-00768 (BMC) (E.D.N.Y.)
 - Fishon et al. v. Premier Nutrition Corp., Case No. 3:16-CV-06980 RS (N.D. Cal, San Francisco Div.)
- 6. I have participated in the design and execution of price premium studies using conjoint methodology and analysis in the context of litigations. These cases include, but are not limited to, *Brown v. The American Tobacco Company; Craft v. Philip Morris; Jones v. Nutiva; Hunter*

- v. Nature's Way; Fitzhenry-Russell v. Dr. Pepper Snapple Group; Brenner v. Procter & Gamble Co.; Martinelli v. Johnson & Johnson and McNeil Nutritionals; McMorrow, et al. v. Mondelez International Inc. I have also participated in the design and execution of other price premium studies using non-conjoint approaches in Price [Miles] v. Philip Morris; Zill v. Sprint; Ebin v. Kangadis Food Inc.; Sachs and Alden v. Toyota Motor Corporation; Avram v. Samsung Electronics America, Inc. and Lowe's Home Centers; Geanacopoulos v. Philip Morris, USA.; Scotts EZ Seed Litigation; Dzielak v Whirlpool.
- 7. In addition, I have designed and conducted consumer perception surveys in *Price v. Philip Morris; Zill v. Sprint; Otto v. Abbott Laboratories; Ebin v. Kangadis; Scotts EZ Seed Litigation; Pettit v. Procter & Gamble [RE: Flushable Wipes]; Theodore Broomfield, et al. v. Craft Brew Alliance, Inc.; Yamagata et al. v. Reckitt Benckiser LLC, Benson v. Newell Brands, Inc., Sharpe v. A & W Concentrate Company, and Fishon v. Premier Nutrition Corp.*
- 8. I have testified on more than fifty occasions as an expert witness since 2002, including at deposition or trial in the following cases during the last four years. My attached current curriculum vitae (Attachment A) lists my testimony at deposition and trial in the last four years.
- 9. During the period 2000 to 2013, I managed all the online panel research conducted by Knowledge Networks (acquired by GfK in January 2012) on behalf of federally funded principal investigators who conduct health, economic, social, and political research. When I began at Knowledge Networks as the Vice President of Operations and Survey Research in 2000, I was responsible for leading survey research for the company and for developing the probability based KnowledgePanel, which was the core company asset for Knowledge Networks. As part of the start-up of Knowledge Networks, I also designed and implemented approximately 20 internally funded surveys in the areas of health, finance, public policy, and consumer research, and oversaw the scientific direction and operational management of the construction of KnowledgePanel.
- 10. In 2001, I founded the client-facing business unit "Government & Academic Research" for Knowledge Networks. In the role of Managing Director, I oversaw a staff of more than 50 researchers. I advised clients on the design of all phases of their survey research projects, including sample design, questionnaire design, quality control procedures, and data analysis. The research I conducted has had to meet the high-quality standards maintained by federal sponsors of statistical surveys funded by agencies such as the U.S. Centers for Disease Control

- and Prevention, the Environmental Protection Agency, and the National Science Foundation. I have been the principal investigator for studies funded by the U.S. National Science Foundation. My opinions have been quoted in The Wall Street Journal, The New York Times, Crain's Chicago Business, and Business Week.
- 11. Before joining Knowledge Networks, I was a Senior Scientist at Abt Associates, where I managed the data collection for the largest random digit dialing telephone survey in the United States, the National Immunization Survey, which was funded by the U.S. Centers for Disease Control and Prevention with management support from the National Center for Health Statistics. I also led other survey studies funded by the National Institute on Alcohol Abuse and Alcoholism, the National Cancer Institute, the Social Security Administration, and the White House Office of National Drug Control Policy.
- 12. I am currently a Senior Vice President at NORC in Chicago, IL. I lead the online panel survey research business for NORC. NORC is one of the premier survey research organizations in the United States. Affiliated with the University of Chicago, NORC has conducted research for Federal, foundation, and academic clients for 75 years, and is responsible for some of the most prestigious survey projects in the U.S, including the General Social Survey and the Survey of Consumer Finance. Prior to joining NORC in December 2014, I was a Managing Director at GfK (which acquired my employer Knowledge Networks in 2012). At the time, GfK was the fifth largest market research firm worldwide, offering research services in 90 countries.
- 13. I have worked as a survey research expert for more than 20 years, authoring more than 60 articles, conference and seminar papers, or book chapters. I am recognized as an expert in survey research methods. I am a frequent speaker at the annual meetings of the American Association for Public Opinion Research ("AAPOR") and the American Statistical Association. In recognition of my expertise in online surveys, I was appointed to be a member of the AAPOR Task Force on Online Panels that published recommendations for researchers regarding online surveys.
- 14. Most recently, I have been NORC's Director for two significant studies regarding the 2020 general elections in the U.S. First, I was and am still the NORC Director for the 2020 Facebook Election Research Project, which continues with post-election analyses. While funded by Facebook, the study is being directed by university-based academics. I am directing all aspects of sampling and survey data collection for five-waves of data collection in a longitudinal study

- of approximately 300,000 U.S. adults, with surveys conducted both before and after the November 2020 general elections. The study will provide statistical evidence of the extent to which, if any, that social media has an impact on our U.S. politics, democratic institutions, and elections.
- 15. I was also the NORC Director for the *America in One Room* (A1R) projects in 2019 (prior to the 2020 general election in the U.S.) and the 2021 climate change study in preparation for the recent Glasgow Summit on Climate Change. Funded by Helena Project and conducted under the supervision of Professors James Fishkin and Larry Diamond from the Center for Deliberative Democracy at Stanford University, I have and am still currently directing the deliberative polls. The 2019 deliberative polls were chronicled in a special pull-out section of The New York Times on October 2, 2019 (Sunday edition). I was interviewed by CNN, The New York Times, other media outlets, and the film documentary director.
- 16. In the 2020-2021 time frame, my research focus had been in directing more than twenty survey studies related to Covid-19 for the U.S. Centers for Disease Control and Prevention, AARP, Boston University, and other organizations. I also led NORC's initiative to create a partnership agreement with AARP, resulting in the June 2021 launch of Foresight 50+ research solutions.²

BACKGROUND

17. I understand that Plaintiffs contend that Defendants misled reasonable consumers by their use of the "natural" claim about their Tom's of Maine product line (the "Tom's Products" or the "Products"). Plaintiffs allege that Defendants were able to obtain a price premium on their products as a result of deceiving consumers by falsely using the "natural" claim on their personal care products. According to Plaintiffs, they and class members have suffered economic loss because the Tom's Products contain ingredients that are not natural.

¹ See https://en.wikipedia.org/wiki/America in One Room. Badger, Emily; Quealy, Kevin. "These 526 Voters Represent All of America. And They Spent a Weekend Together". <a href="https://en.wikipedia.org/wiki/America in One Room. Badger, Emily; Quealy, Kevin. "These 526 Voters Represent All of America. And They Spent a Weekend Together". <a href="https://en.wikipedia.org/wiki/America in One Room. Badger, Emily; Quealy, Kevin. "These 526 Voters Represent All of America. And They Spent a Weekend Together". <a href="https://en.wikipedia.org/wiki/America in One Room. President Obama recommended The New York Times article in a tweet.

² https://www.norc.org/Research/Capabilities/Pages/Foresight50.aspx.

³ See, generally, First Amended Class Action Complaint, Dkt. 8, filed January 18, 2018 ("Complaint").

SCOPE OF WORK

- 18. I was asked by Plaintiffs' counsel to design, conduct, and report on a reliable consumer survey(s) to address issues relevant to the litigation. I understood my assignment was to measure whether the "natural" claim on Tom's toothpaste products (of various sizes, pack sizes, and flavors) and on Tom's deodorant products cause any market price premium to be paid by Tom's of Maine consumers and, if so, the amount of the price premium. I understood my price premium survey(s) would provide data for calculating any economic loss suffered by the proposed class of consumers.
- 19. I have conducted those price premium surveys, as I explain in this expert report.

OVERVIEW OF WORK PERFORMED

20. Based on my knowledge and expertise in the fields of survey research and consumer market research, I designed and conducted reliable price premium surveys. The price premium survey, as indicated by its name, measures the market price premium, if any, that is attributable to the challenged "natural" claim used by Defendants on their toothpaste and deodorant products. I conducted a price premium survey designed specifically to measure any price premium attributable to the challenged claim for the Tom's toothpaste products and a separate price premium survey designed specifically to measure any price premium attributable to the challenged claim for the Tom's deodorant products. The price premium surveys also provide evidence of the extent to which the challenged claim is material to consumers' purchasing decisions. I conducted the price premium surveys in a number of sequential steps, as summarized here and further explained below.

21.	
	. I also conducted a local market scan of Tom's toothpaste and

⁴ COLGATETOMS00005158; COLGATETOMS00005284; COLGATETOMS00014108; COLGATETOMS00020980; COLGATETOMS00021173; COLGATETOMS00023391. *See* Attachment B List of Considered Materials for other market research that I considered.

deodorant retail prices in the vicinity of San Francisco, California. Second, I began the process of designing the surveys by creating a sampling plan for my price premium surveys. I designed the sample plan to assure that the responses to my price premium surveys would be generalizable to the proposed class. Third, I designed the price premium surveys questionnaire based on my review of Defendants' product packaging and market research and my twenty-five years of experience in survey research, among other things. Fourth, I retained a survey vendor to program the survey questionnaires that I designed. Fifth, to test whether respondents understood the questionnaire, I conducted cognitive ("one on one") interviews with consumers using my price premium surveys. Sixth, after making changes to the survey based on my cognitive interviews and review of the survey, I pretested the surveys with Tom's of Maine consumers. Seventh, I compiled the data from the completed interviews, reviewed the data to assess the quality of the survey data, and analyzed the interviews to calculate the price premium statistics. Finally, I wrote this declaration and expert report.

- 22. In addition, in designing the price premium survey, I considered supply-side factors and real-world market transaction information from consumer transaction data for Defendants' products and for their competitors, which I obtained from my market scan of retail prices of Tom's of Maine toothpastes and deodorants and their competitors sold in grocery, discount, and drug stores in the San Francisco Bay Area, as well from market transaction data as provided by Mr. Weir.
- 23. I designed the price premium surveys in consultation with Plaintiffs' damages expert, Mr. Weir. The data from my price premium surveys provide a source of data for Mr. Weir to analyze and calculate the amount of economic damages suffered by class members that is specifically attributable to the challenged "natural" claim used by Defendants on their toothpaste products (of various sizes, pack sizes, and flavors) and deodorant products.
- 24. I designed and conducted the price premium surveys by considering best practices for litigation surveys as documented by Professor Shari Seidman Diamond of Northwestern University in her "Reference Guide on Survey Research." My price premium survey employs a sound methodology, in light of the considerations documented by Robert Groves *et al.* in their survey

⁵ Shari Seidman Diamond, 2011, "Reference Guide on Survey Research," <u>Reference Manual on Scientific Evidence</u> (Third Edition).

- research textbook, <u>Survey Methodology</u> (Second Edition), by Peter Marsden and James Wright in the <u>Handbook of Survey Research</u> (Second Edition), by Norman Bradburn et al in <u>Asking Questions</u>, by Roger Tourangeau et al in <u>The Psychology of Survey Response</u>, and by marketing scientists specializing in price premium surveys and analysis (Green and Srinivasan, 1990; Orme, 2014; Sawtooth Software Technical Paper Series, 2009, 2017), among others.
- 25. I designed the price premium surveys to provide data for the calculation of any economic damages suffered by the proposed class of Tom's of Maine toothpaste and deodorant consumers.
- 26. In the paragraphs below, I first describe the methodologies and document the steps that I took to design and implement the price premium surveys and then, at the end of my report, I provide the price premium results for the toothpaste and deodorant conjoint surveys.

METHODOLOGICAL CONSIDERATIONS FOR THE PRICE PREMIUM SURVEYS

- 27. My surveys consisted of (i) a screening section to identify a representative sample of Tom's of Maine toothpaste and deodorant consumers and (ii) the price premium surveys themselves based on Choice-Based-Conjoint methodology.
- 28. <u>Study Target Population</u>. The study target population for the price premium surveys consisted of non-institutionalized U.S. adults age 18 and over who had purchased Tom's of Maine toothpaste (for the toothpaste conjoint survey) or deodorant (for the deodorant conjoint survey) for personal use in the past 12 months (before taking the survey). To qualify for my conjoint surveys, respondents must answer a series of screening survey questions before being determined eligible to participate. The screening questions are mapped to the definition of the study target population. I designed the study target population to provide a representative sample of Tom's toothpaste and deodorant consumers whose responses would be generalizable to proposed class members in California, Florida, and New York. I designed the study target population to also provide reliable and generalizable data for the national population of Tom's of Maine toothpaste and deodorant consumers.
- 29. To qualify for the price premium survey and be a study participant, the respondents must answer a series of questions whereby their responses meet all of the following conditions: be a U.S. resident; be at least age 18; did not take a survey about relevant products (oral care or

deodorant) in the past 30 days; and purchased Tom's of Maine toothpaste or deodorant for personal use during the past twelve months. Therefore, my sampling approach is premised on surveying adult U.S. consumers who are actual and recent purchasers of Tom's of Maine toothpaste or deodorant products. All my survey respondents purchased Tom's of Maine toothpaste or deodorant during the proposed class period (purchasers of Tom's Products on or after September 24, 2015).

30. Conjoint Survey Methodology. The price premium surveys use the choice-based conjoint methodology utilizing the Sawtooth software system for online data collection. (For the purposes of my declaration, I use interchangeably the expressions "price premium survey" and "conjoint survey.") Choice-based conjoint is the most widely used type of conjoint survey. Since at least the 1990s, conjoint surveys have been a generally accepted and commonly used tool in market research to estimate market demand for new products and services, among other purposes. Specifically, choice-based conjoint is a standard marketing research technique for quantifying consumer preferences for products and for the component features that make up a product. Conjoint analysis can be used to break down the utility of a conceptual feature into its component parts. My use of the conjoint methodology is to measure the marketplace price premium solely attributable to Defendants' use of the challenged "natural" claim. Conjoint surveys are used widely in industry and government. Conjoint is widely accepted by courts as a reliable methodology.

⁶ *See* generally, the Sawtooth Software technical papers on choice-based conjoint available at http://www.sawtoothsoftware.com/support/technical-papers. See Orme, 2014; Sawtooth Software Technical Paper Series, 2009, 2017.

⁷ Green, Paul E. and V. Srinivasan, 1990. Conjoint Analysis in Marketing Research: New Developments and Directions.

⁸ Orme, 2014.

⁹ While conjoint surveys have been common on market research since 1990s for product development and other purposes, it is increasingly used in the public sector. For instance, the Food and Drug Administration uses the approach in regulatory benefit-risk assessments. (F. Reed Johnson and Mo Zhou, 2016, "Patient Preferences in Regulatory Benefit-Risk Assessments: A US Perspective). In another example, public health planners are increasingly using choice-based conjoint to collect public input in health service planning, healthcare finance debates, and the treatment choices of individual patients, among other uses. Charles E. Cunningham, Ken Deal, and Yvonne Chen, December 2010, "Adaptive Choice-Based Conjoint Analysis: A New Patient-Centered Approach to the Assessment of Health Service Preferences."

¹⁰ See, e.g., Dzielak v. Whirlpool Corp., 2017 WL 1034197, at *6-8 (D.N.J. Mar. 17, 2017) (finding related methodology "passes muster under the *Daubert* considerations," including its "relationship

31. My selection of the conjoint tool is based, in substantial part, on how it closely resembles how consumers actually shop in real life – comparing products, evaluating them, and making choices. Conjoint surveys take advantage of the fact that consumers are accustomed to making choices and their real-world experiences of choosing among product alternatives. An industry leader in conjoint analysis tools observes:

Choice-based conjoint analysis has attracted much interest in the marketing research field. There are several reasons for its position as the most widely used conjoint-related approach today: The task of choosing a preferred concept is similar to what buyers actually do in the marketplace. Choosing a preferred product from a group of products is a simple and natural task that everyone can understand.¹¹

- 32. Prior to the adoption of choice-based conjoint in marketing research, it was common for researchers to ask respondents to rank and rate new product concepts and features (without making trade-off choices). Choice-based conjoint, in contrast, asks the respondent to express their preferences by choosing from sets of concepts (such as product profiles). As such, the respondent experience in answering choice-based conjoint surveys is similar to what buyers actually do in the marketplace that is, choosing a preferred product from a group of products.
- 33. I designed the toothpaste and deodorant conjoint surveys to provide the respondents (i) the appropriate decision-making context for answering the choice questions, (ii) instructions for how to compare the product profiles and answer the choice questions, and (iii) clear

to other established reliable techniques (particularly, the conjoint analysis technique of which it is a part)"); In re: Lenovo Adware Litig., 2016 WL 6277245 (N.D. Cal. 2016) (certifying class where damages model was based on conjoint analysis); In re ConAgra Foods, Inc., 90 F. Supp. 3d 919, 1027-31 (C.D. Cal. 2015) (concluding an expert's "conjoint analysis is, at this stage, sufficiently reliable to be used in calculating class-wide damages"); Guido v. L'Oreal USA, Inc., 2014 WL 6603730, at *4-8 (C.D. Cal. 2014) (collecting cases and finding conjoint analysis satisfied class certification requirements of Comcast); TV Interactive Data Corp. v. Sony Corp., 929 F. Supp. 2d 1006, 1020-26 (N.D. Cal. 2013) (denying motion to exclude conjoint analysis) *Microsoft Corp. v.* Motorola, Inc., 904 F. Supp. 2d 1109, 1119-20 (W.D. Wash. 2012) (conjoint analysis survey was "admissible as relevant under FRE 401 and 402 and . . . sufficiently reliable under FRE 702 and Daubert"). See also Khoday v. Symantec Corp., No. 11-180 (JRT/TNL), (2014 WL 1281600, at *10 (D. Minn. March 13, 2014); Sanchez-Knutson v. Ford Motor Company, 310 F.R.D. 529, 538-39 (S.D. Fl. 2015); Brown v. Hain Celestial Group, Inc., 2014 WL 6483216, at *19 (N.D. Cal. Nov. 18, 2014); Microsoft v. Motorola, Inc., 904 F.Supp.2d 1109, 1119-20 (W.D. Wa. 2012); In re Scotts EZ Seed Litig., 304 F.R.D. 397, 413-15 (S.D.N.Y. 2015); Briseno v. ConAgra Foods, Inc., 844 F.3d 1121 (9th Cir. 2017).

¹¹ Sawtooth Software Technical Paper Series, 2017, "The CBC System for Choice-Based Conjoint Analysis," p.2.

descriptions of the attributes themselves. The conjoint surveys I designed and implemented, in my expert opinion, are relatively simple and cognitively easy for respondents compared to standard market research conjoint surveys. The basis for this opinion is as follows:

- The survey samples were restricted to actual recent purchasers of Tom's of Maine toothpastes and deodorants. I interviewed consumers that had recently experienced making purchases of Tom's of Maine toothpaste or deodorant. Therefore, the conjoint survey had personal relevance to the respondents.
- Typical conjoint surveys can have six or more attributes for the respondents to consider. Surveys with a large number of attributes can be cognitively challenging for respondents in comparing product profiles and making choices. My toothpaste conjoint survey has only six: brand, flavor, product benefits, product descriptions, ingredients, and price. My deodorant conjoint survey has only three: brand, label claims on the front of the package, and price.
- Some conjoint surveys will present four product profiles for each choice task. My surveys provide only three, which reduces the cognitive burden on the survey respondent and generally makes it easier for the respondent to process the presented product choices.
- Conjoint surveys often have 12 to 20 choice tasks for the respondent to consider and decide which products they prefer. My toothpaste conjoint survey is on the low end of the usual range with only 10 choice tasks for each respondent, and my deodorant conjoint survey has only 12 choice tasks for each respondent. The result is more reliable data since there is less potential for respondents to experience fatigue in answering the choice questions.
- Toothpaste conjoint respondents were provided a "None of these" option in the conjoint survey; therefore, respondents were not forced to select one of the three product profiles. Respondents not having a preference for a toothpaste product presented to them in the conjoint survey had the option to select "None of these." Respondents in my deodorant conjoint survey were provided the "none" option by being asked a follow-up question about whether they "would purchase the product in real life" with Yes/No response options. 12
- To reduce the complexity of the choice task for the respondents, I kept the product size of the toothpaste a constant (5.5 ounces) for the product profiles in the conjoint survey. Therefore, the respondents did not have to weigh the potential for variations in product size when making their product choices in the conjoint survey.

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¹² This approach is known in the literature as the "dual-response none" approach, as documented in the Sawtooth Software manual for conjoint analysis. *See* https://sawtoothsoftware.com/help/lighthouse-studio/manual/hid web cbc none.html.

- Also, to reduce cognitive burden on the respondents, I showed the respondent only two to five claims for each product profile in the toothpaste survey and only two to four claims in the deodorant conjoint survey. Respondents were randomly presented a subset of claims from the list of possible claims. "Natural" the challenged claim is one of the thirteen possible claims shown in the product profiles for the toothpaste conjoint survey and one of the 10 possible claims shown in the deodorant conjoint surveys.
- 34. These steps are generally accepted techniques in the field to prevent excessive cognitive burden on respondents and produce reliable responses from conjoint surveys.
- 35. In determining which attributes to include in the conjoint survey, I considered the information collected during my cognitive interviews with Tom's of Maine consumers.
- 36. I included the logos for the toothpaste and deodorant brands presented in my surveys to improve the recognizability of the specific brands for my price premium survey respondents. I emphasized the brand attribute in the price premium survey by displaying the brand logos on the top row of the choice screens. Because my survey respondents are actual consumers of toothpaste, the respondents could rely on their personal experience with the toothpaste brands in making their choices in the price premium survey. For instance, in making their choices in the toothpaste conjoint survey, respondents can consider whether they prefer the taste, texture, color, etc. of the toothpaste brand. Moreover, by including the brand attribute in the choice screens (as logos), the "brand equity" of the brand will be reflected in respondents' answers to my choice questions since the brand logos enable the respondent to factor in any family history, inertia, nostalgia, or personal traditions regarding the brand.¹⁴

¹³ COLGATETOMS00005158; COLGATETOMS00005284; COLGATETOMS00014108; COLGATETOMS00020980; COLGATETOMS00021173; COLGATETOMS00023391. *See also* Attachment B List of Considered Materials.

¹⁴ Market researchers commonly refer to "brand equity" or "brand-specific effect" as the component of consumer preference that is not explained by "objectively measured attributes" (such as the features of a product). *See* Park and Srinivasan, 1994, p.272.

The brand logos are shown below for the brand attribute of my toothpaste conjoint survey.



37. The brand logos are shown below for the brand attribute of my deodorant conjoint survey.



38. In designing the conjoint surveys, I considered and included numerous real-world, supply-side factors for the products at issue, so that my survey would accurately measure the price premium attributable to the challenged claim, *i.e.*, the intersection between demand-side factors (willingness to pay) and supply-side factors (willingness to sell), to determine the actual effect of the challenged claim on market price. I took into account the fact that this product is sold in a well-developed, longstanding, and competitive market, through a variety of retail outlets. My price premium surveys included market-based price points for Tom's of Maine toothpaste and deodorants and their competitors based on actual real-world prices that consumers have paid for the products. The actual real-world pricing of the products reflects the actual number of units sold, the costs of manufacturing, the costs for distribution,

advertising, and marketing, and margin, among other supply-side factors. My price premium surveys also incorporate other market-based attributes besides price, such as actual competing products in the marketplace identified by Defendants. I used real brand logos, product photos and actual wording of label claims and ingredient lists from these competing brands in the survey. Further, I took into account the fact that the quantity supplied of Defendants' and competitors' toothpaste and deodorant products is a known fact and is fixed as a matter of history.

- 39. Other sources of information that I considered in designing the conjoint surveys include the following: advertised pricing and actual retail and wholesale transaction data for Defendants' products and the products of their competitors; a market scan of the leading brands of toothpaste and deodorant products available for purchase in retail stores; and Defendants' and competitors' product labels used during the class period, among other things.
- 40. The conjoint surveys that I designed and implemented are based on certain "levels" within the attributes. To define terms, an "attribute" is a feature type such as brand, price, or a label on the product package. A "level" is one of the options for an attribute. For instance, "Tom's of Maine" is a level for the "Brand" attribute, while "Peppermint" is a level for the "Flavor" attribute for the toothpaste conjoint survey. Each attribute in the conjoint survey has two or more levels.
- 41. The attributes and levels used in the toothpaste conjoint survey are shown below in two tables to facilitate the presentation: a table for the attributes and levels for the non-ingredients' attributes and a separate table for the ingredients attribute. The ingredients attribute does not result in utility data used for the conjoint analysis since the ingredients level shown to the respondents was not randomized but instead tied to the level of the brand in each product profile.

Attributes and Levels for the Toothpaste Price Premium Survey, Excluding the Ingredients Attribute

ATTRIBUTES	LEVELS
	Tom's of Maine
	Clean Mint
	Fresh Mint
Eleven	Strawberry
Flavor	Peppermint
	Spearmint
	Fennel
	Cavity Protection
	Whole Care
Product Benefits	Sensitive
1 Toduct Denemits	Antiplaque & Whitening
	Deep Clean
	Advanced Whitening
	Natural
	Fluoride-Free
	With Fluoride
	Clinically Proven
	Whitening
	Clinically Proven Whitening
Product	Technology
Descriptions	Fresh Breath
	Fights Cavities
	Helps Prevent Tartar Build-Up
	Safe for Enamel
	No Artificial Dyes or Sweeteners
	Helps Prevent Stains
	Baking Soda
	\$3.00
Price	\$4.00
	\$5.00
	\$6.00

The Ingredients Attribute and Levels for the Toothpaste Conjoint Survey, with the Product Associated with the Ingredients

Ingredient No.	Ingredient List	Derived from this Product and Shown for this Toothpaste in the Conjoint
Ingredients 1	Active Ingredient: Sodium Monofluorophosphate (0.76%) (0.15% w/v Fluoride Ion). Inactive Ingredient: Calcium Carbonate, Water, Glycerin, Sodium Bicarbonate, Xylitol, Sodium Lauryl Sulfate, Natural Flavor, Carrageenan, Benzyl Alcohol	Tom's of Maine "Cavity Protection"
Ingredients 2	Active Ingredient: Sodium Monofluorophosphate (0.76%) (0.13% w/v Fluoride Ion). Inactive Ingredient: Glycerin, Water, Calcium Carbonate, Hydrated Silica, Xylitol, Chondrus Crispus (Carrageenan), Natural Flavors, Sodium Lauryl Sulfate, Sodium Bicarbonate, Zinc Citrate.	Tom's of Maine Whole Care
Ingredients 3	Arginine Bicarbonate, Benzyl Alcohol, Calcium Carbonate, Hydrated Silica, Natural Flavor (Peppermint Oil and Other Natural Flavor), Sodium Bicarbonate, Sodium Lauryl Sulfate, Sorbitol, Titanium Dioxide, Water, Xanthan Gum, Xylitol.	Tom's of Maine Sensitive; "Sensitive" is
Ingredients 4	Calcium Carbonate, Glycerin, Water, Xylitol, Hydrated Silica, Natural Flavor (Peppermint Oil), Sodium Lauryl Sulfate, Zinc Citrate, Carrageenan, Sodium Bicarbonate.	Tom's of Maine Anti-Plaque & Whitening
Ingredients 5	Active Ingredients: Sodium Fluoride (0.243%). Inactive Ingredients: Sorbitol, Water, Hydrated Silica, PEG-6, Sodium Lauryl Sulfate, Flavor, Zinc Citrate, Cellulose Gum, Carrageenan, Sodium Saccharin, Hydroxyethylcellulose, Sodium Citrate, Stannous Chloride, Polyethylene, Titanium Dioxide, Blue 1 Lake.	
Ingredients 6	Ingredients. Sodium Fluoride 0.24% (0.15% w/vFluoride Ion) - Anticavity. Inactive Ingredients: Water, Hydrated Silica, Glycerin, Sorbitol, PVM/MA Copolymer, Sodium Lauryl Sulfate, Flavor, Cellulose Gum, Sodium Hydroxide, Propylene Glycol, Carrageenan, Sodium Saccharin, Tita nium Dioxide.	

42. The attributes and levels used in the deodorant conjoint survey are shown below. Respondents were instructed to assume that the deodorant stick products "have the same fragrance/scent that you buy the most often" and are all deodorant stick products in a 2.5-ounce size. Therefore, the attribute of fragrance/scent and the attribute of product size were constants assumed by the respondent and not included in the product profiles. In addition, label claims displayed in the product profiles ("Aluminum Free," "No Artificial Fragrance," "Paraben Free," etc.) communicated information related to the ingredients attribute of relevance to the consumers.

Attributes and Levels for the Deodorant Price Premium Survey

ATTRIBUTES	LEVELS
	Tom's of Maine
	Natural
	Aluminum Free
	B Corp Certification
	Wide Stick
Label Claims on	Long Lasting
Front of Package	24H Protection
	48H Protection
	No artificial fragrance
	Paraben free
	Non-Irritating
	\$2.99
	\$3.99
Price	\$4.99
TITC	\$5.99
	\$6.99
	\$7.99

43. In the actual choice tasks, respondents are shown three different product profiles from which to make a selection. Each product profile is distinguished by the combination of attributes and levels shown above. While each product profile has the same list of attributes, the actual levels for each attribute are randomly displayed (with some documented constraints). Therefore, the respondent is making selections based on comparing different toothpaste products that vary by brand, nutrition facts, type, flavor, and product descriptions or deodorant products that vary by brand, label claims, and price. Below is an example of a choice task for a respondent. The product profiles "Toothpaste A," "Toothpaste B," and "Toothpaste C" are randomly generated by the Sawtooth software. The "natural" claim in this example is shown as a "Product Description" for Toothpaste A. Respondents are asked "If these were your only options, which of these TOOTHPASTES would you purchase in real life?" Respondents had the option to select one of the three product profiles or select "None of these."

Example of a Choice Task for a Respondent in the Toothpaste Price Premium Survey



- 44. By making a series of choices across 10 choice tasks in the toothpaste conjoint survey, the respondent reveals the utility of the attributes (*e.g.*, price sensitivity, loyalty to a specific brand, appeal of specific claims on labels, etc.). The elegance of the conjoint design is that it encourages respondents to make decision trade-offs in considering various combinations of attributes and levels (for instance, by weighing their loyalty to a specific brand versus their sensitivity to price).
- 45. Below is an example of a choice task for a respondent in the deodorant conjoint survey. The three product profiles shown in each choice task are randomly generated by the Sawtooth software. The "natural" claim in this example is shown as one of the "Label Claims on the Front of the Package." Respondents are asked "If these were your only options, which of these 2.5-ounce deodorant options would you purchase in real life?" Respondents had the option to select one of the three product profiles, and then were asked a follow-up question to confirm or not whether they would actually purchase the product.

lite?

If these	were you	r only	options,	which	of these	2.5-ounce	deodorant	options	would y	ou puro	hase i	in rea
life?												

Would you purchase this in real life?

Yes No

COGNITIVE INTEVIEWS

- 46. To inform the questionnaire design and the selection of the attributes and attribute levels, I conducted one-on-one cognitive interviews with Tom's of Maine consumers. For the toothpaste conjoint survey, on May 26, 2018, I conducted seven cognitive interviews lasting approximately 30 minutes on average. For the deodorant conjoint survey, on June 27, 2022, I conducted eight cognitive interviews lasting approximately 30 minutes on average. The cognitive interviewing methodology provided me an opportunity to determine whether respondents interpreted my survey questions in the manner that I intended, to identify areas for improving the clarity of my survey questions, and to assess whether any changes are warranted to my selection of attributes and levels for the conjoint surveys.
- 47. In the cognitive interviews, I showed toothpaste and deodorant consumers the actual conjoint survey questions on their computer screens and asked for their feedback. Such interviews are the gold-standard for survey pre-testing. These cognitive interviews showed that respondents

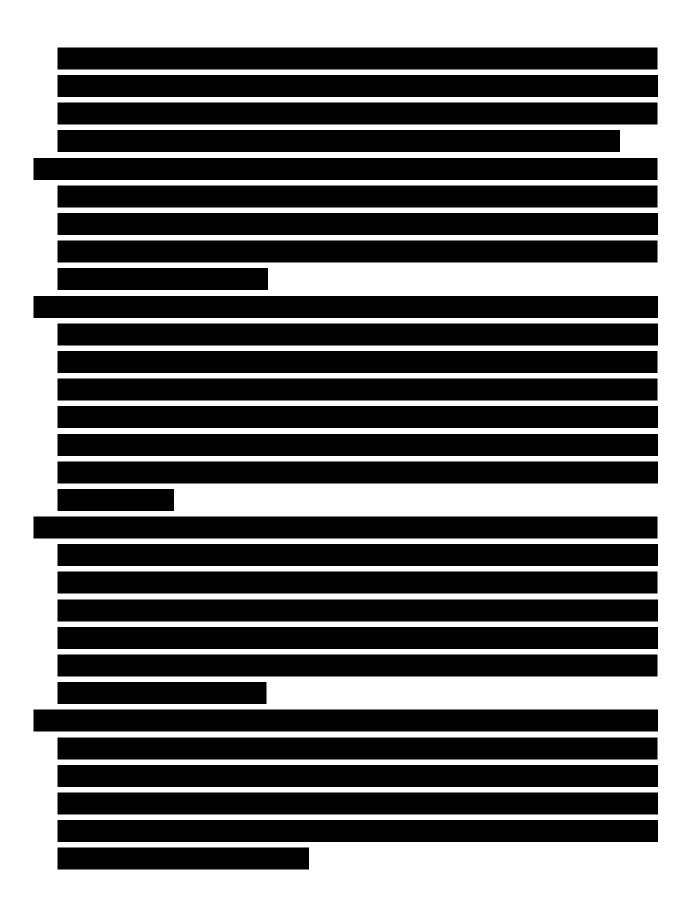
fully understood that they were engaged in a hypothetical shopping experience focused on the making toothpaste or deodorant product choices and had all the information needed to make the requested choices. When I received feedback from these cognitive interview respondents, I considered the feedback and incorporated it as appropriate into the final design of the survey.

48. To prevent error in surveys, cognitive interviewing is the gold-standard methodology for testing survey questionnaires with respondents. According to one of the foremost experts in cognitive interviewing, Gordon Willis and his co-author:

Cognitive interviewing is an evidence-based, qualitative method specifically designed to investigate whether a survey question—whether attitudinal, behavioral, or factual in nature—fulfills its intended purpose. The method relies on interviews with individuals who are specifically recruited. These individuals are presented with survey questions in much the same way as survey respondents will be administered the final draft of the questionnaire. Cognitive interviews are conducted before data collection (pretesting), during data collection, or even after the survey has been administered, as a quality assurance procedure.¹⁵

- 49. For the cognitive interviews, I showed the respondents the draft price premium surveys and asked for feedback on each survey question in the survey, including the choice screens in the conjoint survey. These cognitive interviews involved one-on-one dialogue between me and real consumers during which I showed them the actual survey questions and conjoint tasks on their computer screens and invited their feedback on the survey. I conduct cognitive interviews as part of the best practices for survey development but ultimately because the survey respondents are the ultimate judge of whether the survey questions are clear, unbiased, and make sense to them as consumers who buy Tom's of Maine toothpastes and deodorants.
- 50. When I received feedback from these cognitive interview respondents, I considered the information and made appropriate changes to the final design of the conjoint survey. Based on respondent feedback during the cognitive interviews,

¹⁵ Gordon B. Willis and Anthony R. Artino, Jr. What Do Our Respondents Think We're Asking? Using Cognitive Interviewing to Improve Medical Education Surveys. <u>J Grad Med Educ.</u> 2013 Sep; 5(3): 353–356.



- 55. My cognitive interview respondents for both of my conjoint surveys confirmed that my conjoint survey provided a realistic replication of the marketplace for toothpaste and deodorant products and that my selection of attributes took into account the factors that were important to their consumer choices. My cognitive interviews verified that my survey included the various types of information that matter to consumers.
- 56. I did not make any changes to the deodorant conjoint survey as a result of the cognitive interviews.
- 57. None of my cognitive interview respondents perceived my survey to be sponsored or funded for a litigation purpose or lawsuit. To the extent that respondents had an opinion, their general impressions was that the survey was sponsored by a toothpaste or deodorant company.

INTERVIEW SAMPLE SIZE & DATA COLLECTION

- 58. For both of my conjoint surveys, I exceeded industry best practices for sample size by having completed interviews with 1,000 U.S. consumers who purchased Tom's of Maine toothpaste in the past 12 months and with 849 who had purchased Tom's of Maine deodorant in the past 12 months. My calculation of the price premium associated with the "natural" claim is based on these 1,000 toothpaste conjoint survey respondents and 849 deodorant conjoint survey respondents. Industry guidelines recommend having at least 150 respondents for a given segment participating in the conjoint survey and at least at least 300 conjoint interviews in total for robust quantitative research. If I exceeded the guidelines substantially by collecting 1,000 and 849 interviews for the toothpaste and deodorant conjoint surveys, respectively.
- 59. For the toothpaste conjoint survey, in order to collect the 1,000 completed interviews for the analysis, I initially asked 17,408 U.S. adults to take the online survey. I used the U.S. Census sample balancing controls to obtain a nationally representative sample of U.S. adults beginning my survey, after which I administered the screening questions to identify the 1,000 respondents that met my definition of the study target population. Twenty-nine percent of the interviews were conducted with respondents residing in the states of California, Florida, or New York.

Bryan Orme, 2010, "Sample Size Issues in Conjoint Analysis." https://www.sawtoothsoftware.com/download/techpap/samplesz.pdf.

- 60. For the deodorant conjoint survey, in order to collect the 849 completed interviews for the analysis, I initially asked 13,352 U.S. adults to take the online survey. I used the U.S. Census sample balancing controls to obtain a nationally representative sample of U.S. adults beginning my survey, after which I administered the screening questions to identify the 882 respondents that met my definition of the study target population and completed the conjoint survey. Of these 882 respondents, I retained 849 for the conjoint analysis since 33 respondents did not pass quality control checks. Thirty-eight percent of the interviews retained for analysis were conducted with respondents residing in the states of California, Florida, or New York.
- 61. Survey Questionnaire Programming and Survey Data Collection. I retained the research firm Dynata (formerly Research Now Survey Sampling Inc.) to provide me with the online survey vendor services for programming the questionnaires, providing the respondent samples, and for collecting the survey data. Based on my experience in the industry, the Dynata online panel sample is regarded as among the most credible and reliable non-probability online panel having the necessary scale for this study, which involves collecting a substantial number of interviews on a relatively low-incidence consumer segment. Dynata programmed my survey questionnaire into an online survey under my active supervision. The actual survey data were collected using survey software and servers operated by Dynata.
- 62. Steps Taken to Disguise Survey Objectives from the Respondents. I took certain steps to avoid a potential risk for the reliability of the conjoint surveys that would result from respondents answering the survey questions strategically to either help or hurt Defendants' interests. I camouflaged the survey objectives to address the risk of strategic responses. First, with respect to the screening section of the survey, my first screening question included a wide variety of personal care product types and then a wide range of oral care product brands. By casting a wide net for the types of personal care products and toothpaste and deodorant brands in my survey questions, I disguised the research objectives from the respondents. From my cognitive interviews with respondents, I understand that these questions effectively disguised the survey objectives. I asked respondents at the end of my cognitive interviews about their opinion regarding which organization or type of organization is paying for the study. Respondents perceived that the survey was part of a market research study being conducted by one of the toothpaste or deodorant companies.
- 63. Pretest Surveys. After the completion of the cognitive interviews and having made the

changes to the questionnaire resulting from the cognitive interviews (as documented above), I conducted a pretest to test each of the price premium surveys with a representative sample of members of the study target population. The pretest survey is, in a sense, a dress rehearsal for the data collection. The pretest was conducted online using the same sampling and data collection procedures that I subsequently employed for the full data collection. I conducted the pretest for the following purposes: (i) for quality control and quality assurance testing of the survey instrument, (ii) to validate that the survey questionnaire was programmed correctly to my specifications, (iii) to identify any survey questions that were unclear to respondents, and (iv) to analyze the data to identify any problems, such as unexpected missing data.

- 64. For the toothpaste conjoint survey, on June 4, 2018, Dynata completed 203 interviews with pretest respondents. I paused the data collection so that I could review the collected survey interview data. I determined that the survey questionnaire was functioning appropriately and that the survey data were reliable. I authorized Dynata to resume the data collection on June 5. The data collection was completed on June 8, 2018.
- 65. For the deodorant conjoint survey, on June 28 and June 29, 2022, Dynata completed 21 interviews with pretest respondents. I paused the data collection so that I could review the collected survey interview data. I determined that the survey questionnaire was functioning appropriately and that the survey data were reliable. I authorized Dynata to resume the data collection on June 30, 2022. The data collection was completed on July 1, 2022.

METHODOLOGY FOR THE PRICE PREMIUM ANALYSIS FOR THE TOOTHPASTE AND DEODORANT CONJOINT SURVEYS

66. I conducted the analysis of the conjoint data using a market simulation tool produced by Sawtooth Software, the industry leader in market research for conjoint data collection and analysis software. Sawtooth's authors explain that:

the simulator is used to convert raw conjoint (partworth utility) data into something much more managerially useful: simulated market choices. Products can be introduced within a simulated market scenario and the simulator reports the percentage of respondents projected to choose each product. A market simulator lets an analyst or manager conduct what-if games to investigate issues such as new product design, product positioning, and pricing strategy.

Market simulators are commercially available or can be constructed using spreadsheet programs.¹⁷

- 67. In short, a market simulation tool is a "choice laboratory" for testing multiple real-world possibilities (*e.g.*, the price premium paid estimates for products with and without the challenged claims) and supports the estimation of preferences across consumer segments.
- 68. With respect to the analysis tools needed to analyze the survey data, the raw data created by a conjoint survey is fundamentally different from a non-conjoint survey data obtained through a direct-questioning methodology that is typical in a marketing or public opinion survey. In a conventional survey data set, survey answers such as "yes" and "no" are coded into "1" and "2," making possible a straightforward count of survey responses. No "modeling" of the data is required to draw inferences. In contrast, a conjoint study leads to a set of utilities or partworths that quantify the value respondents' place on each level of each attribute (e.g., for each price level for the price attribute). To draw inferences from the utility data, conjoint analysis leverages Bayesian statistics (technically, Hierarchical Bayesian modeling) to provide individual respondent-level models. The price premium survey results presented in my declaration are calculated using a market simulator employing Hierarchical Bayesian models developed in the Sawtooth Software system.¹⁸ For the toothpaste project, Dynata (then RNSSI) collected the data from its online panel, created the market simulator under my direction using the Sawtooth software (Sawtooth Lighthouse Version 9.5.3 to estimate the part worth utilities). The market simulator that I used to calculate the price premium is based on a share of preference model.¹⁹ For the deodorant project, I calculated the utilities used for the market simulations and analyzed the data using the market simulator tool in Sawtooth Lighthouse Version 9.14.²⁰

¹⁷ Bryan Orme, Sawtooth Software, on "Market Simulators for Conjoint Analysis." https://www.sawtoothsoftware.com/download/techpap/introsim.pdf. Also, Joel Huber et al., 2006. "Dealing with Product Similarity in Conjoint Simulations."

¹⁸ Sawtooth Software Technical Paper Series, 2009, "The CBC/HB System for Hierarchical Bayes Estimation." Sawtooth Software Technical Paper Series, 2017, "The CBC System for Choice-Based Conjoint Analysis."

¹⁹ Orme, Bryan K. and Kejth Chrzan. 2017. <u>Becoming an Expert in Conjoint Analysis</u>. Sawtooth Software Inc. Chapter 14. Orme, Bryan K. "Market Simulators for Conjoint Analysis." Chapter 10 in Bryan Orme's <u>Getting Started with Conjoint Analysis</u>.

²⁰ I used the standard settings in Sawtooth's Lighthouse software to calculate the utilities: Number of iterations at 10,000; number of draws for each respondent at 10,000; and other default settings.

- 69. The market simulation provides a statistically robust estimate of the price premium that purchasers paid as a result of the challenged "natural" claim as a fraction of the total price paid by consumers for the Tom's of Maine toothpaste and deodorant products. For instance, a price premium of 10% for a challenged claim on a toothpaste product sold for \$4.00 is the same as stating that \$0.40 of the product price is attributable to the premium paid for the challenged claim. In this example, the purchaser would need to be presented a 10% discount for the product without the challenged claim to have the same market value as the product with the challenged claim.
- 70. The design of my conjoint survey and my market simulator allowed me to calculate the price premium attributable to the challenged label for the marginal consumer, that is, the additional price that the marginal consumer would pay for the product with the "natural" claim. As explained by Nobel Prize winner Daniel McFadden and his co-authors, the price premium of the "infringing feature" (in this case, the challenged "natural" claim) is the same as the willingness to pay of the marginal consumer that can be identified by offering respondents a "no buy" option in the conjoint surveys. I provided respondents such a "no buy" option in the form of a "none of these" option in the choice sets shown the respondents in the toothpaste conjoint survey and the confirmation dual-response none question in the deodorant conjoint survey. By using this procedure, and by further taking into account the supply-side factors as discussed above, I identified the marginal consumer as a Tom's of Maine toothpaste or deodorant consumer who is indifferent between the market price of the toothpaste or deodorant with the "natural" claim and the same product without the challenged claim.

71.	To produce reliable and conservative estimates of value, I purposely made an analytic
	assumption that results in minimum estimates of the price premium paid as a result of the
	challenged claim.

²¹ Lisa Cameron, Michael Cragg and Daniel McFadden, "The Role of Conjoint Surveys in Reasonable Royalty Cases," Law360, October 16, 2017.

Because consumers as economic actors are sensitive to the price (with lower

valuations for the product as the price increases), using the highest price points available for the market simulation produces conservative, minimal estimates of the price premiums. Therefore, I have made the conservative adjustment in my reporting of the price premium by using the highest price point shown the respondents in my price premium survey. 72.

- 73. My market price premium statistics, which are based on the above-noted assumptions in the market simulations, are accurately generalizable to all of Defendants' toothpaste and deodorant products. Indeed, they provide conservative, minimum estimates of the market price premium paid by the proposed class for Tom's of Maine products with the "natural"
- 74. Based on my analysis of the data from the price premium survey and my expert judgment, I conclude that class members paid a market price premium that is solely attributable to the "natural" claim used by Defendants:

Price Premium Solely Attributable to the "Natural" Claim on Tom's of Maine Toothpastes

No. Respondents	Price Premium / Product Price	Price Premium Percent

75.	

Price Premium Solely Attributable to the "Natural" Claim on Tom's of Maine Deodorants

No. Respondents	Price Premium / Product Price	Price Premium Percent

claim.

76.	

77. To enable replication of prime premium estimate, the conjoint survey data (part-worth utilities) and other information are attached.

CONCLUSION

- 78. I drew on my more than 20 years in designing and conducting online surveys and my more than 25 years of experience in survey research to design and produce reliable price premium surveys. I followed a rigorous protocol for developing the survey questionnaires using cognitive interviews and pretesting. I carried out a series of quality control and quality assurance measures to confirm that the respondents understood the survey questions. I designed the survey sample to identify representative samples of Tom's of Maine toothpaste and deodorant consumers. I processed, analyzed, and reported on the survey data based on my experience and expert judgment.
- 79. In my expert opinion, my survey provides a reliable and accurate measurement of the extent to which there is a marketplace price premium attributable to the challenged "natural" claim for the proposed class of Tom's of Maine toothpaste and deodorant consumers.
- 80. In my expert opinion, the results from my cognitive interviews and price premium surveys establish that the "natural" claim is material to the purchasing decisions of Tom's of Maine toothpaste and deodorant consumers by communicating that the products are made using natural ingredients.
- 81. The facts and data that I considered for developing the price premium surveys and my opinions in this report are cited herein and listed in my attached list of considered materials. I reserve the right to modify my opinions if I were to be provided additional information, and to supplement them if necessary to respond to criticisms or objections from the opposing party.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct to the best of my knowledge. Executed in East Palo Alto, California on July 8, 2022.

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Mr Ke Pans

July 8, 2022

DATE